Optimal Iterated Two-Class Separation in Hyperspectral Data

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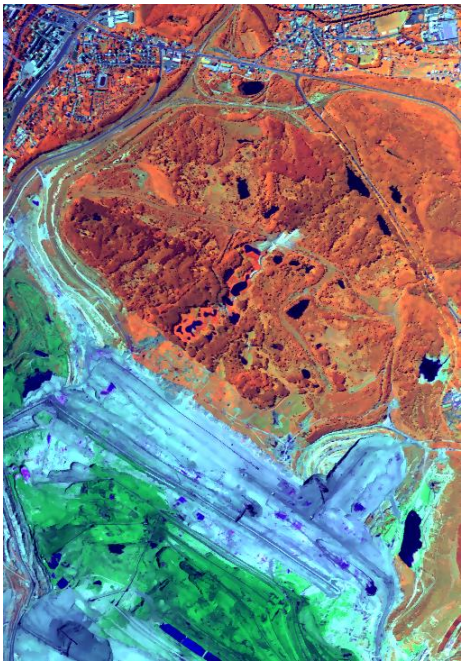
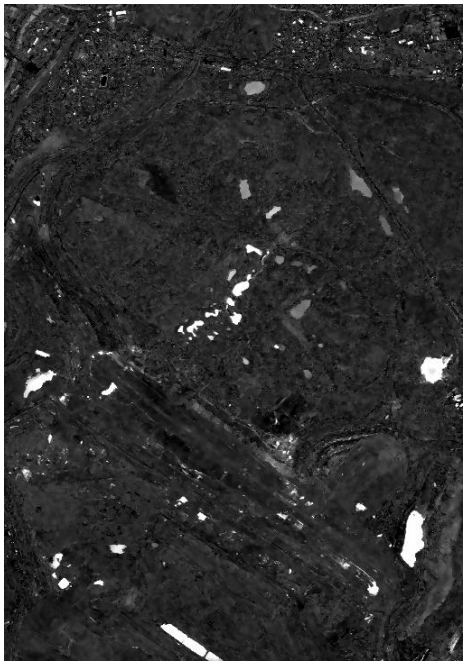
This paper gives an iterated extension of canonical discriminant analysis (CDA) for separation between two groups or classes in multi- or hypervariate data. We show that the iterative extension greatly enhances the separation between classes in a case with 110-band HyMap data covering part of the Sokolov mining area in the Czech Republic. Below three spectral bands of the original data (red 848 nm, green 1.781 nm and blue 681 nm) and the iterated canonical variate that based on an initial training area gives the optimal separation (in the CDA sense) between "water" and "everything else" are shown.





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